

IN THE CLAIMS

The status of each claim in the application is presented below.

Claims 1-16 (Cancelled).

Claim 17 (Currently Amended): A method for producing xylitol or D-xylulose, which comprises:

culturing a bacterium ~~having ability to produce xylitol or D-xylulose from glucose~~ in a suitable medium to accumulate xylitol or D-xylulose in the medium, and

collecting xylitol or D-xylulose from the medium,

wherein the bacterium has a 16S rRNA gene comprising a nucleotide sequence of SEQ ID NO: 1 or a nucleotide sequence whose homology is more than 96.5% to the nucleotide sequence of SEQ ID No: 1 ~~an evolutionary distance of the bacterium, calculated by CLUSTAL W based on the 16S rRNA gene nucleotide sequences, which respect to *Acetobacter methanolicus* is not more than evolutionary distance between *Acetobacter methanolicus* and *Acetobacter pasteurianus*, and an evolutionary distance of the bacterium with respect to *Acetobacter pasteurianus* is not more than an evolutionary distance between *Acetobacter methanolicus* and *Acetobacter pasteurianus*, and~~

wherein the bacterium has the following characteristics:

- (a) an ability to produce xylitol or D-xylulose from glucose;
- (b) quinone type: ubiquinone-10;
- (c) ~~GC content of DNA: about 56 to 57%;~~
- (c) ~~d~~ no or weak ~~an~~ ability to produce acetic acid from ethanol; and
- (d) ~~e~~ grows in the presence of 30% glucose.

Claims 18: (Previously Presented) The method according to claim 17, wherein the bacterium belongs to the genus *Asaia*.

Claim 19: (Previously Presented) The method according to claim 18, wherein the bacterium belongs to *Asaia ethanolifaciens*.

Claim 20: (Previously Presented) The method according to claim 19, wherein the bacterium has a 16S rRNA gene comprising the nucleotide sequence of SEQ ID NO: 1.

Claim 21: Canceled.

Claim 22 (Currently Amended): A method for producing xylitol or D-xylulose, which comprises:

culturing a bacterium ~~having ability to produce xylitol or D-xylulose from glucose in~~ a suitable medium to accumulate xylitol or D-xylulose in the medium, and

collecting xylitol or D-xylulose from the medium,

wherein the bacterium has a 16S rRNA gene comprising a nucleotide sequence of SEQ ID NO: 2 or a nucleotide sequence whose homology is more than 94.0% to the nucleotide sequence of SEQ ID NO: 2 ~~an evolutionary distance of the bacterium, calculated by CLUSTAL W based on the 16S rRNA gene nucleotide sequences, with respect to *Gluconobacter oxydans* subsp. *Oxydans* is not more than an evolutionary distance between *Gluconobacter oxydans* susp. *Oxydans* and *Acetobacter aceti*, and an evolutionary distance of the bacterium with respect to *Acetobacter aceti* is not more than an evolutionary distance *Gluconobacter oxydans* susp. *oxydans* and *Acetobacter aceti*, and~~

wherein the bacterium has the following characteristics:

- (a) an ability to produce xylitol or D-xylulose from glucose;
- (b) quinone type: ubiquinone-10;
- (c) GC content of DNA: about 52 to 53%;
- (d) no or an weak ability to produce acetic acid from ethanol; and
- (e) grows in the presence of 30% glucose.

Claim 23 (Previously Presented): The method according to claim 22, wherein the bacterium belongs to the genus *Zucharibacteri*.

Claim 24 (Previously Presented): The method according to claim 23, wherein the bacterium belongs *Zucharibacter floricola*.

Claim 25 (Previously Presented): The method according to claim 24, wherein the bacterium has a 16S rRNA gene comprising the nucleotide sequence of any one of SEQ ID Nos: 2, 3, 4 or 5.

Claim 26 (New): A method for producing xylitol or D-xylulose, which comprises:
culturing a bacterium in a suitable medium to accumulate xylitol or D-xylulose in the medium, and

collecting xylitol and D-xylulose from the medium,

wherein the bacterium belongs to the genus *Asaia* whose taxonomic position is at a position of P528 in the molecular phylogenetic tree of figure 1, and wherein said microorganism has the following characteristics:

- (a) an ability to produce xylitol or D-xylulose from glucose;
- (b) quinone type: ubiquinone-10;

- (c) no or a weak ability to produce acetic acid from ethanol; and
- (d) grows in the presence of 30% glucose.

Claim 27 (New): A method for producing xylitol or D-xylulose, which comprises:
culturing a bacterium in a suitable medium to accumulate xylitol or D-xylulose in the
medium, and

collecting xylitol or D-xylulose from the medium,

wherein the bacterium belongs to the genus *Zucharibacter* whose taxonomic position
locates at a position of S877 in the molecular phylogenetic tree of figure 1, and wherein said
microorganism has the following characteristics:

- (a) an ability to produce xylitol or D-xylulose from glucose;
- (b) quinone type: ubiquinone-10;
- (c) no or a weak ability to produce acetic acid from ethanol;
- (d) grows in the presence of 30% glucose;
- (e) does not grow in an agar-medium containing 1% glutamic acid; and
- (f) grows in an agar medium containing 7% glutamic acid.

Claim 28 (New): A method for producing xylitol or D-xylulose, which comprises:
culturing a bacterium in a suitable medium to accumulate xylitol or D-xylulose in the
medium; and

collecting xylitol or D-xylulose from the medium,

wherein the bacterium belongs to the same genus as the strain P528 having a 16S
rRNA gene comprising a nucleotide sequence of SEQ ID NO: 1, and wherein the bacterium
has the following characteristics:

- (a) an ability to produce xylitol from glucose;

- (b) quinone type: ubiquinone-10;
- (c) no or a weak ability to produce acetic acid from ethanol;
- (d) grows in the presence of 30% glucose.

Claim 29 (New): A method for producing xylitol or D-xylulose, which comprises:
culturing a bacterium in a suitable medium to accumulate xylitol or D-xylulose in the
medium, and

collecting xylitol or D-xylulose from the medium,

wherein the bacterium belongs to the same genus as the strains S877, S1009, S1019
and S1023 having 16S rRNA genes comprising nucleotide sequences of SEQ ID Nos: 2, 3, 4
and 5, respectively, and wherein the bacterium has the following characteristics:

- (a) an ability to produce xylitol or D-xylulose from glucose;
- (b) quinone type: ubiquinone-10;
- (c) no or a weak ability to produce acetic acid from ethanol;
- (d) grows in the presence of 30% glucose;
- (e) does not grow in an agar medium containing 1% glutamic acid; and
- (f) grows in an agar medium containing 7% glutamic acid.

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SUPPORT FOR THE AMENDMENTS

The amendments to Claims 17 and 22 and newly-added Claims 26-29 are supported by the specification at pages 5-42. See in particular page 30. No new matter is believed to have been added to this application by these amendments.